

238552



{In Archive} Re: Cayuga water plots

David A Eckhardt

to:

Dougherty, John

03/28/2011 01:43 PM

Cc:

"Joe Mayo"

Hide Details

From: David A Eckhardt <daeckhar@usgs.gov>

To: "Dougherty, John" <DoughertyJN@cdm.com>

Cc: "Joe Mayo" <MayoJJ@cdm.com>

Archive: This message is being viewed in an archive.

#### 1 Attachment



Cayuga\_RI\_WL\_figures.pdf

John,

See my suggestions in the attached pdf figure.

I do not think that we can depict a shallow surface to the south of the 660-ft WL elevation, due to the lack of a consistent confining unit and the significant fracturing/faulting in the Pinckney Rd & Overbrook Dr areas. Also, in this area we have a mixture of S1 wells: some are in the Marcellus Shale and some are in the Onondaga; others are open boreholes in multiple units. Eventually, as you move further south, I believe that the shallow flow moves toward the south (a shallow divide must exist at some point). Then, the entire flow system to the south may become a (quasi) water-table condition.

I suggest that you add flow direction arrows (perpendicular to contours) to the final figures.

--dave

RE-

Dave, attached are draft potentiometric surface maps for Cayuga. I think the D3 zone maps are ok. I used Surfer to generate a preliminary set of contours and then drew final contours myself.

I want to talk to you in particular about the shallow potentiometric surface. The version shown was generated by Surfer and clearly needs some work. I generated this set of contours using a select set of data, see attached.

Please let me know if you're available later this morning.

jnd

# Legend

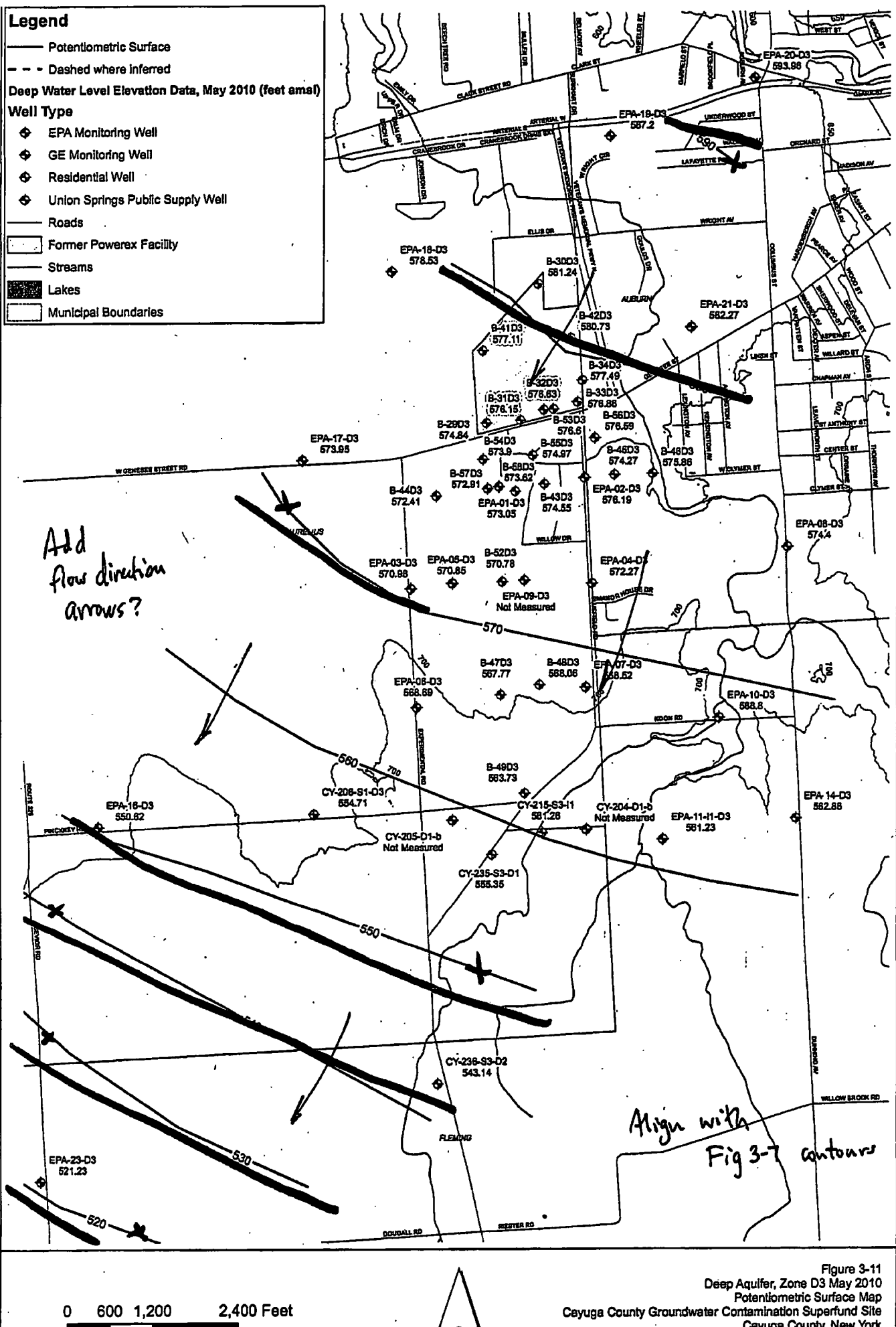
- Potentiometric Surface
- Dashed where inferred

Deep Water Level Elevation Data, May 2010 (feet amsl)

## Well Type

- EPA Monitoring Well
- GE Monitoring Well
- Residential Well
- Union Springs Public Supply Well

- Roads
- Former Powerex Facility
- Streams
- Lakes
- Municipal Boundaries



Add flow direction arrows?

Note:

Lack of consistent confining layer and a mixture of shale and limestone shallow zones plus signif. fracturing prevent accurate depiction of shallow surface in Pinckney Rd area.

sh = Marcellus Shale S1 zone

shallow flow may be toward Cayuga Lake at some point

# Legend

Shallow Water Level Elevation Data, May 2010 (feet amsl)

## Well Type

- ◆ EPA Monitoring Well
- ◆ GE Monitoring Well
- ◆ Residential Well
- ◆ Union Springs Public Supply Well

- Continuous, 7, 25
- Roads
- Former Powerex Facility
- Streams
- Lakes
- Municipal Boundaries

0 600 1,200 2,400 Feet

Figure 3-9  
Shallow Aquifer, Zones S1, S2, and S3 May 2010  
Potentiometric Surface Map  
Cayuga County Groundwater Contamination Superfund Site  
Cayuga County, New York

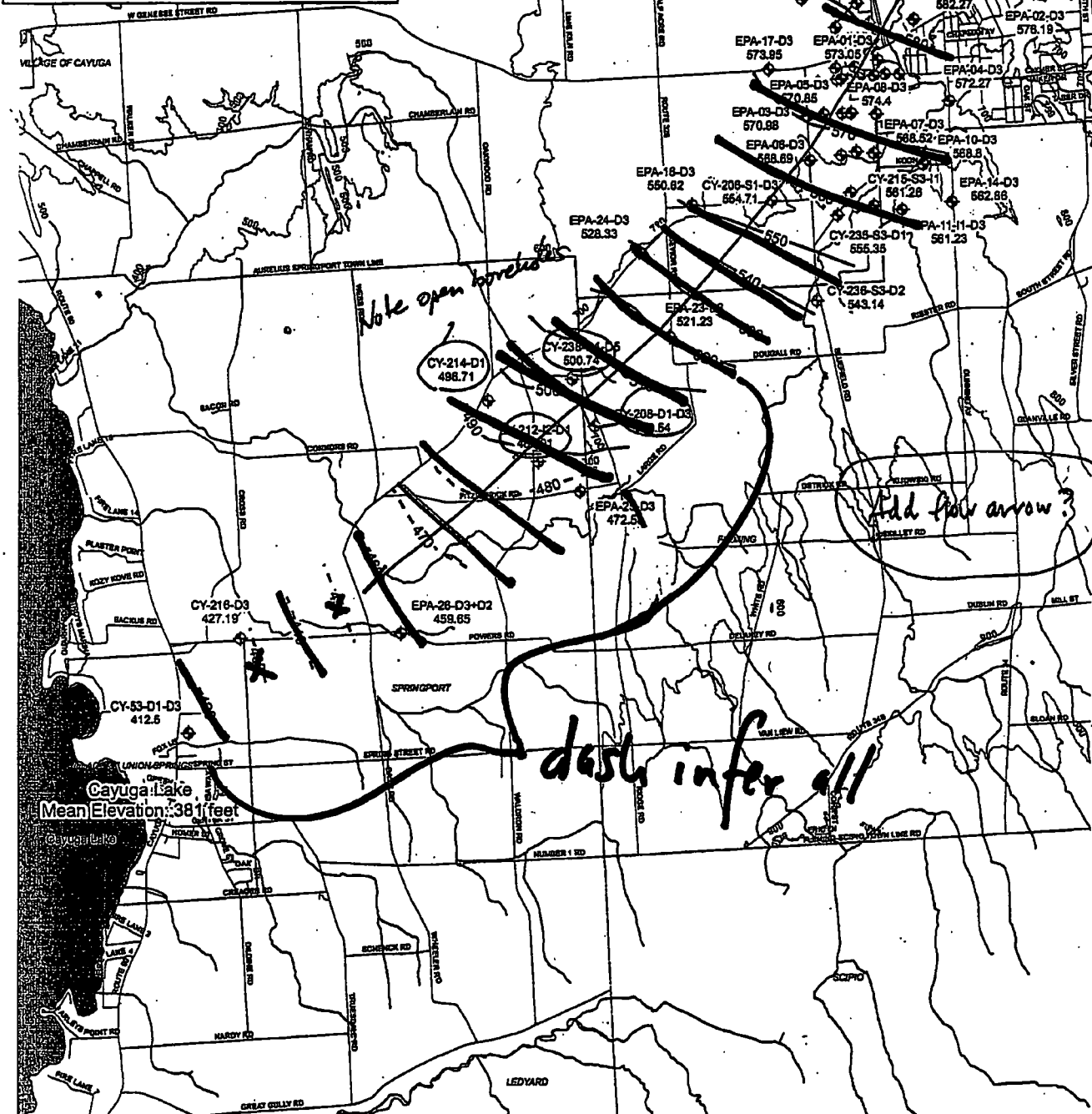
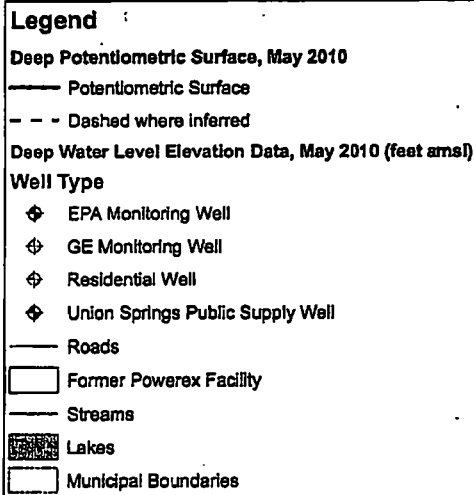


Figure 3-7  
Regional Deep Aquifer, Zone D3 May 2010  
Potentiometric Surface Map  
Cayuga County Groundwater Contamination Superfund Site